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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,429	11/01/2001	Wu-Hsiung Ernest Hsu	5707-136	6707

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EXAMINER

YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,429

Applicant(s)

HSU ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 41-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-40, drawn to a method for withdrawing and recovering VOC and HAP emissions, classified in class 156, subclass 296.
 - II. Claims 41-60, drawn to an apparatus for recovering and controlling VOC and HAP emission, classified in class 156, subclass 580.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process such as using the recited apparatus for recovering and controlling VOC emission during a production of fiberglass board, in which a volatile and hazardous binder resin is used.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Jerome Marger on 09-02-03 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-40. Affirmation of this election must be made by applicant in replying to this

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Office action. Claims 41-60 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-20, and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 6 are indefinite, because the phrases "*the emission control system*" and "*said emission control system*" do not have a positive antecedent basis.

Claim 35 is indefinite, because it is unclear what pressure is being referred to in this claim. Is it the compression exerted by a product formation press or gaseous material being emitted or evacuation pressure during a heat-pressing operation. For the purpose of examining this claim, it is assumed that, the recited pressure is an evacuation pressure.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3, 5-7, 9-23, 25-27, 29-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/25999 in view of Bonomo et al (US 5,980,798).

With respect to claims 1-3 and 5-7, 9-10, WO '999 discloses a process of making a fiber/particle board while withdrawing and recovering VOC, the process comprises heat-pressing a mat of binder-coated ligno-cellulose in a steam-injection press to bond the mat, continuously capturing steam and gaseous material emitted (i.e. taken to include VOC and HAP) in the heat-pressing operation by application of suction pressure so that the lignocellulosic board is produced "without VOC-emissions or formaldehyde-emissions to the workshop areas and to the ambient environment" (emphasis added); and, continuously recovering the captured gaseous material and transporting it, through a conduit (i.e. prevent the release of VOC material), to a combustion plant (page 1 lines 7-16; page 2 lines 11-16; page 3 lines 1-20; claims 1-5; figure).

WO '999 does not teach using a press that is substantially closed to the surrounding atmosphere to contain the emission of gaseous material. However, it would have been obvious in the art to use a press that is substantially closed to the surrounding atmosphere, because Bonomo et al teaches uses a "sealed

press” where a press cavity is isolated from a surrounding atmosphere to reduce *“the loss of valuable steam and facilitates the injection of steam into the mat at elevated temperatures and pressures.”* (col. 2 lines 38-46; col. 3 lines 47-67; col. 7 lines 26-41). An additional incentive for one in the art to modify the press taught by WO ‘999 by sealing the press would have simply been to obtain the self-evident benefit of further ensuring that emission of gaseous material is substantially prevented, if not completely, by containing the gaseous material within the press.

With respect to claims 11-12, since it is a common practice in the art to use the same heat-pressing operation for making particle/fiber boards and oriented strand boards (taken to be a multiplayer product), these claims would have been obvious in the art.

With respect to claims 21-23, 25-27, and 29-32, these claims are essentially mere repetition of the above rejected claims.

With respect to claims 33-34 and 37, in view of the similarity of the production processes between the modified process taught by WO ‘999 and the recited process, these claims would natural flow from the modified process taught by WO ‘999.

With respect to claim 35, since WO ‘999 teaches subjecting the emitted gaseous material continuous negative pressure (i.e. less than atmospheric pressure) to capture the gaseous material, and since one in the art would have readily understood and appreciated that the greater the vacuum pressure, the more

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effective the process can capture most, if not all, emitted gaseous material, this claim would have been obvious in the art.

With respect to claim 36, the limitation in this claim is conventional in the board making art.

With respect to claims 39-40, the pair of pervious pressing belts taught by WO '999 is taken to be a screen. In a curing zone (10), it is a common practice in the art to use a pair of heat-pressing platens for curing a mat of binder-coated ligno-cellulose.

10. Claims 1-3, 5-7, 9-10, 21-23, 25-27, and 29-32 are rejected under 35 U.S.C.

103(a) as being unpatentable over Bonomo et al (US 5,980,798) in view of WO 0/25999.

Bonomo et al, drawn to a process of steam pressing a wood board, substantially discloses the process recited in claim 1. Although not expressly disclosed, it would appear to that, VOC and HAP formed during a heat-pressing operation would have been naturally withdrawn and recovered in the process of Bonomo et al, because Bonomo et al teaches letting out gaseous material in a sealed pressing system to a venting system after a steam injection operation (col. 3 lines 47-67; col. 7 lines 15-50; col. 8 lines 52-58). In any event, it would have been obvious in the art to withdraw and recover VOC and HAP emitted during a heat-pressing operation, because WO '999 teaches continuously apply a vacuum pressure as a mat of lignocellulose particles is being subjected to heat-pressing operation so that no gaseous material such as a VOC is emitted to a workshop

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area, and then incinerating the gaseous material in a combustion plant (page 1 lines 17-29; page 2 lines 11-19; figure 1).

With respect to claims 2-3, 5-7, 9-10, 21-23, 25-27, and 29-32, for essentially the same line of reasoning set forth in numbered paragraph 10 above, these claims would have been obvious in the art. Note: providing a screen in a process of forming pressed boards is a notoriously common practice in the art.

With respect to claims 8 and 28, absent any showing of unexpected result, a preference on whether to condense withdrawn emitted VOC and HAP or not to condense emitted gaseous material while they being transported in a conduit for incineration in a combustion plant is taken to be well within the purview of choice in the art.

11. Claims 1-7, 9-10, 21-27, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breiter et al (US 4,854,994) in view of WO 0/25999.

Breiter et al, drawn to a process of steam pressing a wood board, substantially discloses the process recited in claim 1. Although not expressly disclosed, it is taken that the "*single-layer pressed boards*" of Breiter et al uses a lignocellulosic material, because various lignocellulosic boards are often referred to a pressed board in the art. In any event, such would have been obvious in the art as such is a notorious common practice in the art. More, it would appear to that, VOC and HAP formed during a heat-pressing operation would have been naturally withdrawn and recovered in the process taught by Breiter et al, because Breiter et al teaches the press being equip to permit "pressing of the laminates under

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vacuum" (col. 1 lines 8-13; col. 2 lines 29-34; figures 1-2). In any event, it would have been obvious in the art to withdraw and recover VOC and HAP emitted during a heat-pressing operation, because WO '999 teaches continuously apply a vacuum pressure as a mat of lignocellulose particles is being subjected to heat-pressing operation so that no gaseous material such as a VOC is emitted to a workshop area, and then incinerating the gaseous material in a combustion plant (page 1 lines 17-29; page 2 lines 11-19; figure 1).

With respect to claims 2-3, 5-7, 9-10, 21-23, 25-27, and 29-32, for essentially the same line of reasoning set forth in numbered paragraph 10 above, these claims would have been obvious in the art.

With respect to claims 8 and 28, absent any showing of unexpected result, a preference on whether to condense withdrawn emitted VOC and HAP or not to condense emitted gaseous material while they being transported in a conduit for incineration in a combustion plant is taken to be well within the purview of choice in the art.

12. Claims 4 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph 9 or 10 as applied to claim 1 or 21 above, and further in view of Tisch (US 5,433,905) and Camp, III (US 3,992,135).

It would have been obvious in the art to replace steam with a heated gas/air as a heating medium in the process taught by WO '999 or Bonomo et al, because: a) it is a common practice in the art to interchangeably use steam and heated gases for curing a binder-impregnated ligno-cellulose fiber mat in a belt press (abstract;

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col. 2 line 46 to col. 3 line 68); and b) it is well known in the art to cure a binder-impregnated ligno-cellulose fiber mat in a belt press using a heated air (col. 7 lines 18-37; figures 1-2 and 8).

Conclusion


13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nyberg (US 4,162,877) is cited as a reference of interest showing a process of making lignocellulose board, a pervious caul (i.e. screen) is used (col. 1 lines 13-50).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.


Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
09-06-03